

NOVEMBER/DECEMBER 2024

**23UECA12A/23UEAI12A/23UESC32A/
23UECS32A — STATISTICAL METHODS
AND ITS APPLICATIONS – I**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Write any two advantages of Graphical Representation of Data.
2. What is known as Tabulation of data?
3. Define the term Median.
4. What is called Geometric mean?
5. List down the demerits of Standard Deviation.
6. Specify the characteristics of Measures of Dispersion.

7. What is a Skewness?
8. How to calculate the Kelly's Measure of Kurtosis?
9. Differentiate between the Simple and Multiple linear regressions.
10. State the use of Correlation analysis.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.



11. (a) Enumerate the limitations of Statistics.

Or

- (b) A set of assignment scores for a class of 32 students are provided in the table below. Determine the percentiles associated with the scores of
 - (i) 61%
 - (ii) 79%
 - (iii) 98%.

20. Expound the different types of Correlation. Marks in the two subjects X and Y of eight applicants are shown below. Calculate rank coefficient of correlation.

Applicants Subject X Subject Y

A	15	40
B	20	30
C	28	50
D	12	30
E	40	20
F	60	10

12. (a) Find the Arithmetic Mean for the following:

No of days spent 1 2 3 4 5 6 7 8

No of patient 5 6 5 10 8 4 3 2

Or

- (b) You can take a trip which entails travelling 900 km. by train at an average speed of 60 km. per hour, 3000 km. by boat at an average of 25 km. per hour 400 km. by plane at 350 km. per hour and finally 15 km. by taxi at 25 km. per hour. What is your average speed for tire entire distance?

13. (a) Calculate quartile deviation for the following:

Age 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60

Number of Person 50 70 100 180 150 120 70 60

Or

- (b) Briefly discuss on the Combined Standard deviation and their relative measures.

14. (a) First four moments about mean of a distribution are 0, 2.5, 0.7 and 18.75. Find coefficient of skewness and kurtosis.

Or

- (b) If the Median and Mode of any 10 item values are 25.5 and 28 respectively and the sum of squared deviations from mean is 360, find out Karl Pearson's Coefficient of Skewness.

15. (a) Examine the properties of correlation.

Or

- (b) Briefly discuss on Regression analysis.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. With the appropriate examples, explicate the Diagrammatic representation of data.
17. Given below is the distribution of 140 candidates obtaining marks X or higher in it certain examination (all marks are given in whole numbers):

X:	10	20	30	40	50	60	70	80	90	100
c.f.	140	133	118	100	75	45	25	9	2	0

Calculate the mean, median and mode of the distribution.

18. Discuss about the Standard Deviation. Also Find the standard deviation for the following:

21, 16, 13, 11, 9, 14, 8, 14.

19. Examine the Bowley's Measure of Skewness. Also calculate the Bowley's coefficient for the following data on height of 187 persons:

Height (in inches)	Number of Persons (f)	Cumulative Frequency
57.5 – 58.5	10	10
58.5 – 59.5	18	28
59.5 – 60.5	30	58
60.5 – 61.5	42	100
61.5 – 62.5	35	135
62.5 – 63.5	28	163
63.5 – 64.5	16	179
64.5 – 65.5	8	187

